

Figure 1A

1			VI DINGI I	<u> </u>		•	
SEQ	O NO:		1				
, 9	mouse_E3al1	MASEMEPEVQ	AI D- RSLLEC	SAEE! AGRWL	QAT DL NR EVY	OHL AHCVPK!	49
4	human_E3αl I	MASELEPEVQ	AI D- RSLLEC	S A E E I A G K W L	QATDLTREVY	OHLAHYVPKI	49
15	mouse_E3al	MADEEMDGAE	RIMDVSPEPPL	AP QR P AS WWD	QQV DF YT AF L	HHL AOL VPFI	5.0
7	human_E3αl	MADEEAGGTE	RMEI SAELPO	T P QR L AS WWD	QQVDFYTAFL	HHLAQLVPEI	50
	Consensus	MA. E	D L	A W.	Q. D	. HLA VP. 1	50
9	mouse_E3αll	YCRGPNPFPQ	KEDT LAQHI L	LGPMEWYICA	EDPALGFPKL	EOANKPSHIC	66
4	human_E3αl l	YCRGPNPFPQ	KEDML AQHVL	LGPMEWYLCG	EDPAFGFPKL	E QANK P S HL C	66
15	mouse_E3αl	YF AE MDP DL E	K QE E S V QMS I	LTPLEWLFG	EDPDI CLEKL	KHSG- AFOLC	66
7	human_E3∝l	YF AE MDP DL E	KQEESVQMSI	FTPLEWLFG	EDPDI CLEKL	KHSG- AFOLC	66
	Consensus	Y	К O	L. P. EWL. G	EDPKL		100
٠ ٧	mone Bant	CBVEKVCEDT					
, ,	L. T. T. T.		SCADCAVOR		GSI HKUHKYK	MI I S GGGGF C.	149
4	numan_E3all	GKVFKVGEPI	YSCRDCAVDP	TCVLCMECFL	GS1 HRDHRYR	MTTSGGGGFC	149
12	mouse_E3al	GKVFKSGETT	YSCRDCAI DP	TCVLCMDCFQ	SSVHKNHRYK	MHT ST GGGF C	149
7	human_E3αl	GRVFKS GETT	YSCRDCAI DP	TCVLCMDCFQ	DSVHKNHRYK	MHTSTGGGFC	149
	Cons ens us	GRVFK. GE. T	YSCRDCA. DP	TCVLCM\CF.	. S. H HRY.	M TS. GGGFC	150
9	mouse_ $E3\alpha II$	DCGDTEAWKE	GPYCQKHKLS	SSEVVEEEDP	L VHL SEDVI A	RTYNI FAI ME	199
4	huma n_ $E3\alpha II$	DCGDTEAWKE	GPYCQKHELN	TSELEEEEDP	L VHL SEDVI A		199
15	mous e_E3al	DCGDTEAWKT	GPFCVDHEPG RAGTTKESLH	RAGTTKESLH	- CPLNEEVI A	QARRI FPSVI	198
7	human_E3αl	DCGDTEAWKT	GPFCVNHEPG	GPFCVNHEPG RAGTI KENSR	- CPL NEEVI V		198
	Cons ens us	DCGDT E AWK.	GP. C HE	GP. C HE	L. E. VI A	ш. —	200

Figure 1B

249 248 248 248 250	298 298 298 298 300	348 348 348 348
RYAVDILTWE KESELPEDLE VAEKSDTYYC MLFNDEVHTY EQVIYTLQKA RYAVEILTWE KESELPADLE MVEKSDTYYC MLFNDEVHTY EQVIYTLQKA KYIVEMTIWE EEKELPPELQ IREKNERYYC VLFNDEHHSY DHVIYSLQRA KYVVEMTIWE EEKELPPELQ IREKNERYYC VLFNDEHHSY DHVIYSLQRA KYVVEMTIWE EEKELPPELQ IREKNERYYC VLFNDEHHSY DHVIYSLQRA Y. VE WE. E. ELP L EK YYC . LFNDE. H. Y VIY. LQ. A	CDQAKTVI VR NTSRQTK- PL CEQAKSVI VR NTSRQTK- PL CQEAKEDI KS HSENVSQHPL CQEAKEDI KS HSENVSQHPL C. AK. I PL	GL QE GP DGEN GL QE GP DGEN CL VE EP GS EN CL RE EP DS EN
KESELPEDLE VAEKSDTYYC MLFNDEVHTY EQVIYTLQKA KESELPADLE MVEKSDTYYC MLFNDEVHTY EQVIYTLQKA EEKELPPELQ IREKNERYYC VLFNDEHHSY DHVIYSLQRA EEKELPPELQ IREKNERYYC VLFNDEHHSY DHVIYSLQRA . E. ELP L EK YYC . LFNDE. H. Y VIY. LQ. A	VNCTQKEAI G FATTVDRDGR RPVRYGDFQY CDQAKTVI VR NTSRQTK- PL VNCTQKEAI G FATTVDRDGR RSVRYGDFQY CEQAKSVI VR NTSRQTK- PL DCELAEAQL HTTAI DKEGR RAVKAGVYAT CQEAKEDI KS HSENVSQHPL LDCELAEAQL HTTAI DKEGR RAVKAGAYAA CQEAKEDI KS HSENVSQHPL . CEA T D GR R. V G C AK I	KVOVMHSSVA AHONFGLKAL SWLGSVI GYS DGLRRI LCOV GLQEGPDGEN KVQVMHSSI V AHONFGLKLL SWLGSI I GYS DGLRRI LCQV GLQEGPDGEN IVEVLHSVVM AHQKFALRLG SWMNKI MSYS SDFRQI FCQA CLVEEPGSEN HVEVLHSEI M AHQKFALRLG SWMNKI MSYS SDFRQI FCQA CLREEPDSEN V V HS
VAEKSDTYYC MVEKSDTYYC I REKNERYYC I REKNERYYC EK YYC	VNCTQKEAI G FATTVDRDGR RPVRYGDFQY VNCTQKEAI G FATTVDRDGR RSVRYGDFQY .DCELAEAQL HTTAI DKEGR RAVKAGVYAT .DCELAEAQL HTTAI DKEGR RAVKAGAYAA . C EA T D GR R. V G	SWLGSVI GYS SWLGSI I GYS SWMNKI MSYS SWMNKI MSYS
KESELPEDLE KESELPADLE EEKELPPELQ EEKELPPELQ . E. ELP L.	'NCTQKEAI G FATTVDRDGR RPVRYGDFQY 'NCTQKEAI G FATTVDRDGR RSVRYGDFQY DCELAEAQL HTTAI DKEGR RAVKAGVYAT 'DCELAEAQL HTTAI DKEGR RAVKAGAYAA 'CEAT.D.GR R.V.G	AHONF GL KAL AHONF GL KL L AHOKF AL RL G AHOKF AL RL G
RYAVDI LTWE KESELPEDLE VAEKSDTYYC MLFNDEVHTY RYAVEI LTWE KESELPADLE MVEKSDTYYC MLFNDEVHTY KYI VEMTI WE EEKELPPELQ I REKNERYYC VLFNDEHHSY KYVVEMTI WE EEKELPPELQ I REKNERYYC VLFNDEHHSY Y VE WE . E. ELP L EK YYC . LFNDE. H. Y	VNCT QKEAI G VNCT QKEAI G L DCEL AEAQL L DCEL AEAQL C EA	KVQVMHSSVA KVQVMHSSI V HVEVLHSVVM HVEVLHSEI M V V HS
mouse_E3aII human_E3aII mouse_E3aI human_E3aI Consensus	muse_E3aII human_E3aII muse_E3aI human_E3aI Consensus	mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI
6 4 2 2 2	6 1 2 2	6 4 7 2 2

Figure 1C

398					448				
SSLVDRLMLN DSKLWKGARS VYHQLFMSSL LMDLKYKKLF ALRFAKNYRQ	SSLVDRLMLS DSKLWKGARS VYHQLFMSSL LMDLKYKKLF AVRFAKNYQQ	AMEFVKYYKO	PCLISRLMLW DAKLYKGARK I LHELIFSSF FMEMEYKKLF AMEFVKYYKO	LRLML. D. KL. KGAR H. L SS M YKKLF A F. K. Y. Q	 TVI I KAF MDH	SILLKTFMDH	SVITETLLEV	SVITETLLEV	ZVI T
LMDLKYKKLF	LMDLKYKKLF	PCLISRLMLW DAKLYKGARK ILHELIFSSF FMEMEYKKLF AMEFVKYYKO	FWEWEYKKLF	. M YKKLF	LORDF MEDDH ERAVS VTALS VOFFTAPTLA RMLLTEENLM TVI I KAFMDH	LORDFMEDDH ERAVSVTALS VOFFTAPTLA RMLITEENLM SIIIKTFMDH	LOKEYI SDDH ERSI SI TALS VOMLTVPTLA RHLI EEQNVI SVI TETLLEV	LOKEYI SDDH DRSI SI TALS VONFTVPTLA RHLI EEQNVI SVI TETLLEV	LO DDH ER. S. TALS VO FT. PTLA R II F N SVI T
VY HOLF MS S.L.	VY HOLF MS S L	I LHELI FSSF	I LHELI FSSF	H. L SS.	VQFFTAPTLA	VQFFTAPTLA	VOMLTVPTLA	VQMFTVPTLA	VO. FT. PTLA
DSKLWKGARS	DSKLWKGARS	DAKLYKGARK	DAKLYKGARK	D. KL. KGAR.	ERAVSVTALS	ERAVSVTALS	ERSISITALS	DRSI SI TALS	ER. S. TALS
SSLVDRLMLN	SSLVDRLMLS	PCLI SRLMLW	PCLI SRLMLW	L RLML.	LORDFMEDDH	L QR DF ME DDH	L QKE YI S DDH	LOKEYI SDDH	LQ DDH
mouse_E3aII	human_E3aII	mouse_E3al	human_E3¤I	Consensus	mouse_E3aII	human_E3αII	mouse_E3al	human_E3αl	Consensus
9	4	15	7		9	4	15	7	

Figure 1D

498 498 496 496	548 548 546 550	598 598 595 595
	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	
LDLKYVLISK PTEWSDELRQ LDLKYVLISK PTEWSDELRQ CDLKYILISK PVI WTERLRA CDLKYILISK PTI WTERLRM . DLKY. LISK PT. W LR.	EWEPEWEAAF TLOWKLTHVI EWEPEWEAAF TLOWKLTHVI EVDPDWEAAI AIOWQLKNIL EVDPDWEAAI AIOWQLKNIL E. P. WEAAOM L	LSI CGHSVET LSI CGHSVET VQLCGHSLET VQSCGHSLET
LDLKYVLI SK CDLKYI LI SK CDLKYI LI SK CDLKYI LI SK . DLKY LI SK	EWEPEWEAAF EWEPEWEAAF EVDPDWEAAI EVDPDWEAAI E. P. WEAA.	MYQDWCALD EKVLIEAYKK CLAVLTQCHG GFTDGEQPIT MYQDWCASD EKVLIEAYKK CLAVLMQCHG GYTDGEQPIT MFQEWCACD EDLLLVAYKE CHKAVMRCST NFMSSTKTV- MFQEWCACD EELLLVAYKE CHKAVMRCST SFISSSKTV- MFQEWCACD EELLLVAYKE CHKAVMRCST SFISSSKTV-
FKFRRVQSLI FKFRRVQSLI DKLGRVYAVI DKLGRVYAVI	PI TROVGOHI PI TROVGOHI EI RROVGOHI EI RROVGOHI	CLAVLTOCHG CLAVLMOCHG CHKAVMRCST CHKAVMRCST
KHRDAQGRF QFERYTALQA FKFRRVQSLI RHRDAQGRF QFERYTALQA FKFRRVQSLI PEYLDRNN- KFN-FQGYSQ DKLGRVYAVI PEYLDRNN- KFN-FQGYSQ DKLGRVYAVI	KFLQGFDAFL ELLKCMQGMD PITRQVGQHI KFLEGFDAFL ELLKCMQGMD PITRQVGQHI VFLEGFRSFL KILTCMQGME EIRRQVGQHI OFLEGFRSFL KILTCMQGME EIRRQVGQHI FLEGF. FLL.CMQGM. I.RQVGQHI	SMVQDWCALD EKVLIEAYKK CLAVLTQCHG GFTDGEQPITSMVQDWCASD EKVLIEAYKK CLAVLMQCHG GYTDGEQPITMFQEWCACD EDLLLVAYKE CHKAVMRCST NFMSSTKTV-LMFQEWCACD EELLLVAYKE CHKAVMRCST SFISSSKTV-M Q. WCA. D. E. I. AVK.
L KHRDAQGRF L RHRDAQGRF L PEYL DRNN- L PEYL DRNN- L	KFLQGFDAFL ELLKCMQGMD KFLEGFDAFL ELLKCMQGMD QFLEGFRSFL KILTCMQGME QFLEGFRSFL KILTCMQGME	SMVQDWCALD EKVLIEAYKK CLAVLTQCHG GFTDGEQPIT LSICGHSVET SMWQDWCASD EKVLIEAYKK CLAVLMQCHG GYTDGEQPIT LSICGHSVET LMFQEWCACD EDLLLVAYKE CHKAVMRCST NFMSSTKTV- VQLCGHSLET LMFQEWCACD EELLLVAYKE CHKAVMRCST SFISSSKTV- VQSCGHSLET M Q. WCA. D E. I. AYK.
SEQ I D NO: 6 mouse_E3αII 4 human_E3αII 15 mouse_E3αI 2 human_E3αI Consensus	mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI Cons ens us	mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI
S E Q 6 4 1 5 2	6 15 2.	6 1 2 2

Figure 1E

		•
648 648 645 645 650	698 698 695 695	748 748 738 738
EVAYKFPELL PLSELSPPML VAYKFPELL PLSELSPPML GAISRLHEFV PFDSFQVEVL GAVSRLHEFV SFEDFQVEVL	YYYHNVKCRR EMFDKDI VML YYYHNVKCRR EMFDKDVVML FYYQDVKCRE EMYDKDI I ML FYYQDVKCRE EMYDKDI I ML . YY VKCR. EM DKDI I ML	HKDVVQQNNT HKDVVQQNNT DQDLI KQYNT DQDLI KQYNT
IRYCVSQEKV SIHLPISRLL AGLHVLLSKS EVAYKFPELL PLSELSPPMLIYCVSQEKV SIHLPVSRLL AGLHVLLSKS EVAYKFPELL PLSELSPPMLKSYKVSEDLV SIHLPLSRTL AGLHVRLSRL GAISRLHEFV PFDSFQVEVLKSYRVSEDLV SIHLPLSRTL AGLHVRLSRL GAVSRLHEFV SFEDFQVEVLXYVSV SIHLPLSRTL AGLHVLSRL GAVSRLHEFV SFEDFQVEVL		
AGL HVL L SKS AGL HVL L SKS AGL HVR L SR L AGL HVR L SR L AGL HV L L S	CAQVHAGMMR RNGFSLVNQI CAQVHAGMMR RNGFSLVNQI VAQVVAEMMR RNGLSLI SQV VAQVVAEMMR RNGLSLI SQV AQV. A. MMR RNG. SL Q.	ELYQLFSTPD ELYQIFSTPD ELTDA ELAEA ELAEA
I RYCVSQEKV SI HLPI SRLL I YCVSQEKV SI HLPVSRLL A KSYKVSEDLV SI HLPLSRTL KSYRVSEDLV SI HLPLSRTL Y. VS V SI HLP. SR. L	CAQVHAGMMR CAQVHAGMMR VAQVVAEMMR VAQVVAEMMR . AQV. A. MMR	GVSMWDPN HFLMI MLSRF ELYQLFSTPD YGKRFSSEVT GVSMWDPN HFLMI MLSRF ELYQIFSTPD YGKRFSSEIT GASI MDPN KFLLLVLQRY ELTDA FNKTISTK GSLMDPN KFLLLVLQRY ELAEA FNKTISTK G.S. MDPN FLL.R. ELT
I RYCVSQEKV I YCVSQEKV KSYKVSEDLV KSYRVSEDLV Y.VSV	I EHPLRCLVL I EHPLRCLVL VEYPLRCLVL VEYPLRCLVL	OT GVS MWDPN OT GVS MWDPN QI GASI MDPN OI GASL MDPN O. G. S. MDPN
mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI Cons e ns us	mouse_E3aII human_E3aII mouse_E3aI human_E3aI Consensus	mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI Consensus
6 1 2 2 2	2 2	6 1 2

Figure 1F

Figure 1G

L							
SEC	SEQ ID NO:						
9 <	mouse_E3aII	YI MGTI LQWA	VEHHGS AWSE SML QRVL HLI	S ML QRVL HLI	GMALQEEKHH LENAVEGHVQ	AVE GHVQ	948
t -	munan_E3an	CLINGI LOWA	VEHNGY AWSE SML QRVL HLI	S ML QRVL HLI	GMALQEEKQH LENVTEEHVV	VTEEHVV	948
<u> </u>	mous e_E3&I	YI LKII FEKA	YILKIIFEKA VDIESNLWIE GMLOMAFHIL	GML QMAFHI L	ALGLLEEKQQ LQKAPEEEV-	APEEEV-	937
7	human_E3¤l	YI LRTVFERA	YI LRTVFERA I DTDSNLWTE GMLQMAFHI L	GML OMAFHI L	ALGLLEEKQQ LQKAPEEEV-	APEEEV-	937
	Consensus	YI TI A	YI.TI.A VW.E MLQH.	. ML Q H	L. EEKQ. L A. EE. V.	A. EE. V.	950
9	mouse_E3aII	TFTFTQKI SK	P GDAP HNS P S	ILAMLETLON	TFTFTOKISK PGDAPHNSPS ILAMLETLON APSLEAHKDM IRWIKMFNA	KMFNA	800
4	$humnn_E3\alpha II$	TFTFTQKI SK	TFTFTQKISK PGEAPKNSPS ILAMLETLON	ILAMLETLON	APYLEVHKDM I RW	I RW LKTFNA	966
15	mo us e_ $E3\alpha$ l	AF DF Y HKAS R	L GS S A MNA QN	I OMLLERLKG	I PQL EGQKDM I	LOMFDT	987
7	human_E3αl	TFDFYHKASR	LGSSAMNI OM	LLEKLKG	TFDFYHKASR LGSSAMNIOM L LEKLKG I PQLEGOKDM I TW LOMFDT	I LOWF DT	984
	Cons ens us	TF. F K. S.	. G N	I LE. L	TF. F K. S G N I LE. L P. LE KDM I . W L. MF		1000
v	molis e F3~II	30 33					
) .	IIDOS ETOMII	1 NN NE C3	SSSFVAEAEG	II WEESSKUK	UKAEKKKKAE I ARL	LRREKIM 1	1046
4	human_E3al	VKKMRESS	PTSPVAETEG	TI MEESSRDK	VKKNRESS PTSPVAETEG TIMEESSRDK DKAERKRKAE IARLRREKIM 1046	LRREKI M 1	1046
15	mouse_E3al	VKRLREKSCL	VKRLREKSCL. VVATTSGLEC I KSEEI THDK	I KSEEI THDK	EKAERKRKAE AARLHROKI M 1037	HROKI M 1	037
7	human_E3∝l	VKRLREKSCL	I VATTSGSES	I KNDEI THDK	I VATTSGSES I KNDEI THDK EKAERKRKAE AARLHROKI M 1034	LHROKIM	1034
	Cons ens us	VK RE C.		EE DK	VK. RE. C E EE DK . KAERKRKAE . ARL. R. KI M 1050	L. R. KI M. 1	1050

Figure 1H

1094 1094 1087 1084 1100	1144 1144 1137 1134 1150	1193 1193 1184 1181
SDAALTALGP SDMTLTALGP SEASRIALGP SDYSRIALGP SDALGP	VL SKDRTKTI VL SKNRSKFI AL TQHRGKPV AL TQHRGKPI . LR. K. I	VQAKEQRRQQ VQAKEQRRQQ VQLSSQQ VQLSSQQ
I DENKELFQQ TLELDTSASA TLDSSPPV SDAALTALGP 1094 I DENKELFQQ TLELDASTSA VLDHSPVA SDMTLTALGP 1094 I ETHKLMYDN TSEVTGKEDS I MEEESTSAV SEASRI ALGP 1087 I ETHKLMYDN TSEMPGKEDS I MEEESTPAV SDYSRI ALGP 1084 I ETHKLMYDN TSEMPGKEDS I MEEESTPAV SDYSRI ALGP 1084	OTOVPEPRO FVTCI LCOEE OEVTVGSRAM VLAAFVORST VLSKDRTKTI OTOVPEQRO FVTCI LCOEE QEVKVESRAM VLAAFVORST VLSKNRSKFI RGPAVTEKE VLTCI LCOEE QEVKLENNAM VLSACVOKST ALTOHRGKPV (RGPSVTEKE VLTCI LCOEE QEVKI ENNAM VLSACVOKST ALTOHRGKPI	HTGSCGHVMH AHCWQRYFDS VQAKEQRRQQ 1193 HTSSCGHI MH AHCWQRYFDS VQAKEQRRQQ 1193 YTGSCGHVMH AVCWQKYFEA VQLSSQQ 1181 YTGSCGHVMH AVCWQKYFEA VQLSSQQ 1181 TGSCGHVMH A.CWQ YF
AQMS E MQR HF I DE NKEL F QQ AQMS E MQR HF I DE NKEL F QQ AQMS AL QK NF I ET HKL MY DN AQMS AL QK NF I ET HKL MY DN AQMS . Q. F I K	AQTQVPEPRQ FVTCI LCQEE QEVTVGSRAM VLAAFVQRST VLSKDRTKTI TQTQVPEQRQ FVTCI LCQEE QEVKVESRAM VLAAFVQRST VLSKNRSKFI KRGPAVTEKE VLTCI LCQEE QEVKLENNAM VLSACVQKST ALTQHRGKPV KRGPSVTEKE VLTCI LCQEE QEVKI ENNAM VLSACVQKST ALTQHRGKPI	AD-PEKYDPL FMHPDLSCGT HTGSCGHVMH AHCWQRYFDS VQAKEQRRQQ 1193 QD-PEKYDPL FMHPDLSCGT HTSSCGHI MH AHCWQRYFDS VQAKEQRRQQ 1193 DHLGETLDPL FMDPDLAHGT YTGSCGHVMH AVCWQKYFEA VQLSSQQ 1181 ELSGEALDPL FMDPDLAYGT YTGSCGHVMH AVCWQKYFEA VQLSSQQ 1181E DPL FM PDLGT .TGSCGHVMH A.CWQ YF.
mouse_E3aII human_E3aII mouse_E3aI human_E3aI Consensus	mous e_E3αII huma n_E3αII mous e_E3αI huma n_E3α Cons ens us	mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI
2 1 5	2 1 5	6 4 1 5 2 2

Figure 11

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1241 1241 1233 1230 1250	1290 1290 1283 1279 1300	1340 1340 1333 1329
RRLN- FSDQP NRLN- FSDQP ENAEALAQLL ENADALAQLL	I PI PEGFRPD 1290 LQL PEGFRPD 1290 FEFHSI LSFG 1283 LEFHSI LSFG 1279	LCWGTCAYT! MCWGSCAYT! MTWSTCAFT! LTWSTCAFT!
ENGEFLCPLC ECLSNTVIPL L-LPPRSILS RRLN-FSDQP 1241 ENGEFLCPLC ECLSNTVIPL L-LPPRNIFN NRLN-FSDQP 1241 ESGEYLCPLC KSLCNTVIPI IPLQPQKINS ENAEALAQLL 1233 ESGEYLCPLC KSLCNTVIPI IPLQPQKINS ENADALAQLL 1230 E. GE. LCPLC1.NTVIP		**************************************
ENGEFLCPLC ECLSNTVI PL ENGEFLCPLC ECLSNTVI PL ESGEYLCPLC KSLCNTVI PI ESGEYLCPLC KSLCNTVI PI E. GE. LCPLC	QQI KVVQMLR RKHNAA- DTS SSEDTEAMNI QQI KALQFLR KEESTP- NNA STKNSENVDE ARI SGYNI KH AKGEAPAVPV LFNQGMGDST ARI SGYNI RH AKGENP- I PI FFNQGMGDST	AAYKVGL KVH ATYKVGL KVH TI YRI GL KVP TI YRI GL KVP Y GI KV
ENGEFLCPLC ECLSNTVI PL ENGEFLCPLC ECLSNTVI PL ESGEYLCPLC KSLCNTVI PI ESGEYLCPLC KSLCNTVI PI E. GE. LCPLC L. NTVI P.	DLAQWTRAVT QQ! KVVQMLR RKHNAA- DTS SSEDTEAMNINLTQW RT! S QQI KALQFLR KEESTP- NNA STKNSENVDETLARW QTVL ARI SGYNI KH AKGEAPAVPV LFNQGMGDSTTLARW QTVL ARI SGYNI RH AKGENP-I PI FFNQGMGDSTTLARW QTVL ARI SGYNI RH AKGENP-I PI FFNQGMGDSTTLARW TV	FYPRNPYSDS I KEMLTTFGT AAYKVGLKVH PNEGDPRVPI FRPKI PYSES I KEMLTTFGT ATYKVGLKVH PNEEDPRVPI VQSSVKYSNS I KEMVI LFAT TI YRI GLKVP PDELDPRVPM VESSI KYSNS I KEMVI LFAT TI YRI GLKVP PDERDPRVPM
RLRLHTSYDV RLRLHTSYDV RI HVDL - FDL RI HVDL - FDL R: D.	DLAQWTRAVT NLTQW RT! S TLARW QTVL TLARW QTVL TLARW TV.	FYPRNPYSDS FRPKI PYSES VQSSVKYSNS VESSI KYSNS
mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI Cons ens us	mous e_E3aII huma n_E3aII mous e_E3aI huma n_E3aI Cons ens us	mous e_E3αII huma n_E3αII mous e_E3αI huma n_E3αI
6 1 2 2	6 1 2 2	6 4 1 2

Figure 1J

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SEQ ID NO:							
6 mouse_E3αII	QSIERILSDE	EKPVFGPLPC	RLDDCLRSLT	RFAAAHWTVA	LLPVVQGHFC	1390	
4 human_E3αII	QSIERILSDE	DKPLFGPLPC	RLDDCLRSLT	RFAAAHWTVA	SVSVVOGHEC	1390	
15 mouse_E3αI	QAIENLLGDE	GKPLFGALQN	RQHSGLKALM	QFAVAQRATC	POVLIHKHI A	1383	
2 human_E3 α I	QAIENLLGDE	QAIENLLGDE GKPLFGALON	RQHNGLKALM	QFAVAORITC	POVI IOKHI V	1379	
Consensus	Q . IE L .DE	Q.IEL.DE .KPLFG.L	R L L .	. FA . A	Q.H.	1400	
6 mouse_E3aII	KLFASLVPSD	SYEDLPCILD	IDMFHLLVGL	VLAFPALOCO	DE86881	1/37	
4 human_ $E3\alpha II$	KLFASLVPND	SHEELPCILD	IDMFHLLVGL	VLAFPALOCO	DFSGISI	1437	
15 mouse_E3αI	RLLSVILPNL	OSENTPGLLS	VDLFHVLVGA	VLAFPSLYWD	Jd.	1433	
2 human_E3 α I	RLLSVVLPNI	KSEDTPCLLS	IDLFHVLVGA	VLAFPSLYWD		1479	
Consensus	. L PN.	E PC .L .	ID. FH. LVG .	VLAFP. L	D SSL	1450	
11 CH 20110 M	: : :						
o mouse_E3@II	A I GDLHIF	HLVTMAHIVQ	ILLTSCTEEN	GMDQENP	TGEEELAILS	1482	
4 human_E3αII	GTGDLHIF	HLVTMAHIIQ	ILLTSCTEEN	GMDQENP	PCEEESAVLA	1482	
15 mouse_E3αI	SSSYNHLYLF	HLITMAHMLQ	ILLTTDTDLS	PGPPLAEGEE	DSEEARCASA	1483	
2 human_E3αI	SSSYNHLYLF	HLITMAHMLQ	ILLTVDTGL-	PLAQVQE		1475	
Consensus	F	HL. TMAH Q ILLT T	ILLTT	0		1500	

Figure 1K

1532 1532 1533 1525 1550	1581 1581 1583 1575 1600	1631 1631 1633 1625
FHYLNGVPAP 1532 FHYLNGVPSP 1532 FHYLLGVAPP 1533 FHYLLGVTPP 1525 FHYL. GV P 1550	LPTNLIHLFQ ENSDIMNSLI ESWCQNSEVK 1581 LPNNLICLFQ ENSEIMNSLI ESWCRNSEVK 1581 LPTNLFLLFQ EYWDTIRPLL QRWCGDPALL 1583 LPTNLFLLFQ EYWDTVRPLL QRWCADPALL 1575 LPTNL.LFQ EDLWC 1600	NQASNFSCPK SGGDKSRAPT 1631 NQASNFSCPK SGGDKSRAPT 1631 NQASHFRCPR SADDERKHPV 1633 NQASHFRCPR SADDERKHPV 1625 NQAS F. CP. S. D. P. 1650
MPFLKCSAL MPFLKCSALF TPYLRCAALL TPYLRCAALF	LPTNLIHLFQ ENSDIMNSLI LPNNLICLFQ ENSEIMNSLI LPTNLFLLFQ EYWDTIRPLL LPTNLFLLFQ EYWDTVRPLL LPTNLLFQ EDL.	NQASNFSCPK NQASNFSCPK NQASHFRCPR NQASHFRCPR NQASHFRCPR
SALKEAPSGW HLWRSVRAAI MPFLKCSAL SALKEIPSGW HLWRSVRAGI MPFLKCSALF SLTGCGAPGW YLWLSLRNGI TPYLRCAALL SSIGCDIPGW YLWVSLKNGI TPYLRCAALF	LPTNLIHLFQ LPNNLICLFQ LPTNLFLLFQ LPTNLFLLFQ LPTNLFLLFQ	DLPEDYSSLI NLPEDYSSLI ELPEDYSCLL ELPDDYSCLL
SALKEAPSGW HLWRSVRAAI MPFLKCSAL SALKEIPSGW HLWRSVRAGI MPFLKCSAL GLTGCGAPGW YLWLSLRNGI TPYLRCAAL GSIGCDIPGW YLWVSLKNGI TPYLRCAAL	HFEHLCNYLS HFEHLCSYLS EFSALCSYLS EYSALCSYLS . FLCSYLS	SYPRGANKLI RYPRESNKLI RYPRKRNSLI RYPRKRNSLI RYPRN.LI
LHKTLHQYTG LYKTLHQYTG FFVEVSQHTD FFAEISQYTS	PDLQV-SGTS PDIQV-PGTS EELFANSAEG EELHTNSAEG	RYLNGERGAI RYLEGERDAI KSLKQKSAVV NCLKQKNTVV
6 mouse_E3αII 4 human_E3αII 15 mouse_E3αI 2 human_E3αI Consensus	6 mouse_E3αII 4 human_E3αII 15 mouse_E3αI 2 human_E3αI Consensus	6 mouse_E3αII 4 human_E3αII 15 mouse_E3αI 2 human_E3αI Consensus

Figure 1L

RECQV 1681 RECQV 1681 RECRV 1683 RECRV 1675 REC. V 1700	(LWQQH 1731 (LWHQH 1731 VWQQH 1733 VWQQH 1725 WQQH 1750	
CLVCGSLLC SQSYCCQAEL EGEDVGACTA HTYSCGSGAG IFLRVRECQV 1681 CLVCGSLLC SQSYCCQTEL EGEDVGACTA HTYSCGSGVG IFLRVRECQV 1681 CLFCGAILC SQNI CCQEIV NGEEVGACVF HALHCGAGVC IFLKI RECRV 1683 CLFCGAILC SQNI CCQEIV NGEEVGACIF HALHCGAGVC IFLKI RECRV 1675 CLFCGAILC SQNI CCQEIV NGEEVGACIF HALHCGAGVC IFLKI RECRV 1675 CL. CG LC SQ CCQ GE. VGAC H CG. GV. IFL REC. V 1700	FLAGKTKGC FYSPPYLDDY GETDQGLRRG NPLHLCQERF RKI QKLWQQH 1731 FLAGKTKGC FYSPPYLDDY GETDQGLRRG NPLHLCKERF KKI QKLWHQH 1733 LVEGKARGC AYPAPYLDEY GETDPGLKRG NPLHLSRERY RKLHLVWQQH 1733 LVEGKARGC AYPAPYLDEY GETDPGLKRG NPLHLSRERY RKLHLVWQQH 1725	1755 1755 1757 1749
EL EGEDVGACTA EL EGEDVGACTA V NGEEVGACVF I V NGEEVGACI F GE. VGAC	DY GETDQGLRRG DY GETDQGLRRG EY GETDPGLKRG EY GETDPGLKRG	
CLVCGSLLC SQSYCCQAEL CLVCGSLLC SQSYCCQTEL CLFCGAI LC SQNI CCQEI V	AGKTKGC FYSPPYLD AGKTKGC FYSPPYLD EGKARGC AYPAPYLDI EGKARGC AYPAPYLD	SITEEI GHAQ EANQTLVGI D WQHL SVTEEI GHAQ EANQTLVGI D WQHL CI I EEI ARSQ ETNQMLFGFN WQLL CI I EEI ARSQ ETNQMLFGFN WQLL
mouse_E3aII LCL'human_E3aII LCL'mouse_E3aI LCLFhuman_E3aI LCLFCC	mouse_E3aII LFL, human_E3aII LFL, mouse_E3aI VLVE human_E3aI VLVI	mouse_E3aII SITI human_E3aII SVTI mouse_E3aI CIIE human_E3aI CIII
6 mo 4 hu 15 mo 2 hu	6 mo 4 hu: 15 mo 2 hu: Co:	6 mo 4 hu 15 mo 2 hu